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**Notice of Allowability**

Application No.

10/784,510

Examiner

Johnnie L Smith II

Applicant(s)

KRUEGER, CHRISTIAN

Art Unit

2881

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Application filed 02/23/04.
2. ☒ The allowed claim(s) is/are 1-19.
3. ☒ The drawings filed on 23 February 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                              |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>0916</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>0715</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                                      |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                           | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                     |
|  | 9. <input type="checkbox"/> Other _____.   |

## DETAILED ACTION

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with J Mike Amerson on 09/16/2004.

The application has been amended as follows:

Claims 18: A method of monitoring an ion beam, the method comprising; scanning a Faraday system across an ion beam for a plurality of scan positions; the said Faraday system comprising

a body having an entrance surface and a plurality of opening formed in said entrance surface and extending through said body, and one or more conductive detection regions associated with one or more of said opening to receive ion beam portions through said openings, and

determining a beam intensity of at least some sub-portions of a beam portion impinging on said Faraday at each scan position.

*Allowable Subject Matter*

2. Claims 1-19 are allowed.
3. The following is an examiner's statement of reasons for allowance: the prior art searched and cited failed to teach or fairly suggest a Faraday system having a plurality of openings formed in said entrance surface and extending along a said depth; and at least one conductive detection region disposed adjacent to a said body so that at least a portion of said conductive detection region is aligned with at least one of said openings to receive ions through said at least one opening in combination with the remaining elements of claims 1 or 18. Claims 2-14 and 19 are allowable because of their dependencies upon claims 1 or 18. The prior art searched and cited failed to teach or fairly suggest a Faraday system, having a traveling Faraday cup attached to a Faraday assembly, the Faraday assembly including a body having an entrance surface and a plurality of openings formed in said entrance surface and extending through said body, and one or more conductive detection regions associated with one or more of said openings to receive ion beam portions through said openings in combination with the remaining elements

of claim 15. The prior art searched and cited failed to teach or fairly suggest a method of controlling an ion beam, the method having steps of exposing at least one detection surface to an ion beam through a plurality of longitudinal openings and adjusting at least one of beam parallelism and beam divergence on the basis of a measurement reading from said at least one detection surface in combination with the remaining elements of claim 16. Claim 17 is allowable because of its dependency upon claim 16.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patents 6,437,351 (Smick et al), 5,903,002 (Turner et al), 6,768,118 (Nakayama et al), 6,525,327 (Mitchell et al), 6,791,094 (Olson et al). All of the cited US patents contain art similar to that being claimed by applicant, more specifically, apparatuses and methods for determining beam parallelism.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnnie L Smith II whose telephone number is 571-272-2481. The examiner can normally be reached on Monday-Thursday 7-4 P.M. and Alternate Fridays.

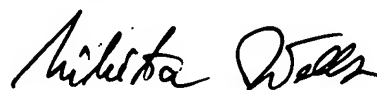
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Johnnie L Smith II

Johnnie L Smith II  
Examiner  
Art Unit 2881



NIKITA WELLS  
PRIMARY EXAMINER 09/28/07